



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

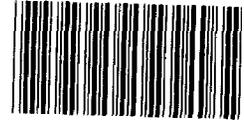
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LOGISTICS AND COMMUNICATIONS
DIVISION

B-197352

MAY 12, 1980

The Honorable Harold Brown
The Secretary of Defense



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Dear Mr. Secretary:

Subject: [Replacement and Usage Plans for Switching
Locomotives Should Be Reevaluated] (LCD-80-58)

Our study of the management of switching locomotives in the Department of Defense (DOD) showed that retention of the locomotives at many installations cannot be justified. We also found that despite these apparent excesses, some of the military services are planning to replace or overhaul many of the locomotives.

This situation has developed primarily because the services do not have usage standards to justify the need for these locomotives, do not have good visibility of their locomotive inventories, and have not delegated to the cognizant inventory managers sufficient authority.

LOCOMOTIVE INVENTORIES

Various DOD components own, operate, and manage 431 switching locomotives at 139 locations. The locomotives are at bases, depots, and contractors' plants to move material within the installations or between the interchange tracks of commercial carriers. The following table shows the number of locomotives and locations for each DOD component.

<u>Component</u>	<u>No. of locomotives</u>	<u>No. of locations</u>
Army	223	62
Navy	116	33
Air Force	65	34
Marines	10	4
Defense Logistics Agency	<u>17</u>	<u>6</u>
Total	<u>431</u>	<u>139</u>

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The locomotives were manufactured in two periods--116 during World War II (1940-45) and 315 during the Korean conflict (1950-54). They were built by 13 different manufacturers and include 10 sizes, ranging from 44 tons to 120 tons.

On the basis of data obtained for some of the locations, we estimate that the annual cost of operating the locomotives and maintaining the tracks is over \$30 million for all locations.

LOCOMOTIVES HAVE LOW USAGE

Locomotives at many of the installations we visited have very low usage.

We visited 27 installations where a total of 73 locomotives were located. Our examination indicated that 23 of these locations with 64 locomotives were achieving 40 percent or less usage. The usage rates were derived by comparing annual hours of operation to total hours available in a 1-shift, 5-day workweek for 1 year (2,000 hours). The table below summarizes the usage for the locations visited.

	Percent of use					Total
	<u>0-10</u>	<u>11-25</u>	<u>26-40</u>	<u>41-55</u>	<u>56-70</u>	
Army	5	2	2	2	-	11
Navy	2	3	2	-	1	8
Air Force	1	4	-	-	-	5
Marines	-	1	-	-	-	1
Defense Logis- tics Agency	-	-	1	1	-	2
Total	<u>8</u>	<u>10</u>	<u>5</u>	<u>3</u>	<u>1</u>	<u>27</u>

The following are examples of the low usage.

Fort Belvoir has two 80-ton locomotives which operated only 80 hours each in calendar year 1977 (4-percent usage). Rail traffic has steadily declined from 606 loaded cars in fiscal year 1972 to 75 cars in 1976 to 26 cars in 1978. Installation officials have tried to discontinue rail operations, but their request has been denied by command headquarters on the basis of the anticipated needs of a tenant activity and the General Services Administration. We found, however, that the

needs of the tenant activity were minimal and could be accomplished by other means and that the needs of the General Services Administration were satisfied through the use of trucks.

Fort Meade has one 80-ton locomotive which operated 105 hours in fiscal year 1978 (5-percent usage) and moved 55 cars. Several years ago, installation officials attempted to get commercial rail carriers to handle their routine switching services. They were unsuccessful but stated that such services could be obtained in a contingency situation as had been done in the past. They also stated that most of the material moved by rail could be moved by truck.

Travis Air Force Base has one 80-ton locomotive which recorded 498 hours of operation in fiscal year 1978 (25-percent usage). A base official told us that about 90 percent of the recorded usage was to run the engines to keep the batteries charged. Eliminating this time reduces the actual usage to 3 percent. The locomotive moved 21 loaded cars during the year. The shipments were mostly furniture and household goods which could be moved by truck.

McClellan Air Force Base has one 80-ton locomotive and one 44-ton locomotive which operated an average of 213 hours each in calendar year 1978 (11-percent usage). The locomotives moved 101 loaded cars during the year. A base official said almost all of the cargo was construction materials, such as crushed rock, which could be moved by truck.

Naval Ordnance Station, Indian Head, Maryland, has three locomotives--a 44-ton, 65-ton, and 80-ton--which operated an average of 123 hours in fiscal year 1978 (6-percent usage). The 44-ton locomotive was used 264 hours, the 65-ton locomotive was used 106 hours, and the 80-ton locomotive has not been used since received in 1977. The locomotives moved 74 loaded cars during 1978.

The military services' own studies have also questioned the need for many of the locomotives. A recent Army study of 10 locations concluded that only 2 locations had enough usage to justify retaining all of their locomotives. At the other eight locations, including Fort Belvoir, 8 of 17 locomotives were shown to be candidates for redistribution. Because the report on the results of the study is still in the draft stage, the Army has not taken action on the study findings.

Similarly, in 1977 the Air Force Inspector General performed a cost benefit analysis at 14 locations. The analysis showed that the rail switching services were not cost beneficial at four locations, including McClellan, on the basis of the ton-mile cost differential between rail operations and truck operations. However, possible future needs and other considerations were given as reasons for continuing rail operations.

Officials at some locations where usage was low justified retention on the basis of mobilization and other contingency needs. We believe that those locomotives needed for mobilization could be transferred to locations now needing them, subject to their return for mobilization purposes. Also, at some locations the usage is so low we believe that it would be cost beneficial to store the locomotives needed for mobilization rather than to continue funding crew and other operating costs. In fact, in the case of the Army, retention for mobilization purposes is contrary to written policy which states that mobilization requirements will not be used as authority to retain equipment excess to current operating/mission requirements.

In sum, many installations are experiencing very low usage rates. Operating costs are too high to warrant retention of the locomotives for such low usage. In addition, the nature of the cargo is such that it can be handled by trucks or other alternative means at lower cost.

REPLACEMENT PROGRAMS MAY NOT BE NEEDED

Despite the low usage, some of the military services have costly plans to replace the existing locomotives through new procurement or remanufacture. In our opinion, some of these replacements are unneeded and others might better be satisfied through redistribution.

The Army plan shows a need to buy 66 new locomotives at a cost of \$44 million between 1981 and 1985. According to the inventory manager, the balance of the Army requirement (140 locomotives) will be satisfied by completely rebuilding existing locomotives beginning in fiscal year 1983. Rebuilding costs could total as much as \$33 million.

The Navy does not have an overall replacement plan but rather leaves it up to the individual installations to determine their replacement needs. The Navy does not plan to buy any new locomotives but will rebuild existing locomotives. It is currently evaluating this approach by remanufacturing two locomotives at an estimated cost of \$237,000 each.

The Marine Corps replacement plans centered around purchases of new locomotives. In January 1979 the Marines began procurement action on two new 65-ton locomotives as replacements for locomotives at supply depots in Barstow, California, and Albany, Georgia. The locomotives were estimated to cost \$400,000 each and were described by a procurement official as a first incremental buy.

In March 1979 we questioned Marine Corps officials about the need to purchase locomotives and advised them that there were other alternatives--namely remanufacturing existing locomotives or obtaining excess locomotives from other DOD components. In April 1979 the Marine Corps canceled the purchase request. At present, the Marine Corps is investigating the remanufacture of some of the existing locomotives and also has obtained two smaller 45-ton locomotives that the Army had in storage.

The Air Force has no plans to purchase or remanufacture locomotives as replacements. Instead, it obtained seven 60-ton locomotives from Army excesses overseas to replace seven World War II vintage locomotives.

At the time we were examining the Marine Corps plans to purchase new locomotives, we questioned the Air Force about the possibility of transferring 2 of the 16 locomotives in storage to the Marine Corps. The Air Force informed us that none of the locomotives were available for transfer and furnished a schedule showing its plans for each of the locomotives.

We found, however, that the Air Force's schedule was not entirely accurate and that at least one of the locomotives could have been considered for transfer. The schedule indicated that a 60-ton locomotive currently in storage would replace a locomotive located at March Air Force Base. Our review showed,

however, that March had not moved any railcars in over a year and that headquarters approval to discontinue rail operations had been given in May 1979, the same month the Air Force told us the locomotive was needed for that base.

The Defense Logistics Agency also has no plans to purchase or remanufacture locomotives as replacements for its existing fleet. The Defense Logistics Agency had obtained six 60-ton locomotives from Army excesses overseas to replace six World War II vintage locomotives.

On the basis of our research into the individual plans discussed above, we believe other viable alternatives should be fully explored before a decision is made to purchase or remanufacture. As demonstrated in the case of the Marine Corps, redistribution between the DOD components is one solution and, in the case of the Air Force, discontinuing rail operations is another solution.

MANAGEMENT WEAKNESSES

We believe the previously described conditions relating to low usage and unneeded replacements are, to a large extent, the result of weaknesses in management. These weaknesses relate to the lack of (1) usage and replacement criteria, (2) asset visibility, and (3) central direction and control.

Management lacks criteria which can provide the basis for questioning installations about the need to retain locomotives receiving low usage. Other than the Navy, none of the DOD components have set criteria or targets to measure actual usage against. The Navy's criteria is not very meaningful because it merely consists of prior years' actual usage. Even then targets are not revised on a regular basis.

Similarly, actual usage data either is not reported to the inventory manager or is not reviewed when it is received. The Army inventory manager does not receive reports on usage from installations or major commands. The inventory managers for the other DOD components receive usage data but do not review this data to identify underused locomotives.

Regarding replacement plans, inventory managers either do not get involved in the planning or use very restrictive criteria. Age is virtually the sole criteria for replacing

locomotives. Other factors, such as the condition, usage, and need for the existing locomotives, are not a consideration.

The Army and Air Force use a 30-year service life and the Marine Corps and Defense Logistics Agency use a 25-year service life in developing their replacement plans. Actually, however, the Marine Corps inventory manager took the action to purchase two new locomotives in response to user activity requests and not in accordance with a planned replacement program. The Navy has not established an overall replacement criteria; replacement actions are prompted and funded by the individual installations or commands.

Some of the inventory managers did not have accurate information on the number, location, and condition of the locomotives. For example, when we started our review, the Navy furnished us a computer listing showing a total inventory of 100 switching locomotives. The Navy subsequently queried the individual installations and came up with a listing of 116 locomotives, or 16 more than originally listed.

Navy records contained other inaccuracies. In one case, the Naval Ordnance Station, Indian Head, Maryland, exchanged a 120-ton locomotive for an 80-ton locomotive at the Public Works Center, Norfolk, Virginia, but the inventory records showed them both at Norfolk. In another case, a locomotive was transferred to a Navy installation on the east coast but was shown on the inventory records as still being at an installation on the west coast.

The other services have similar problems. For example, the Air Force inventory manager thought a locomotive in reserve stock was in condition to be shipped out. But when he attempted to do so, he was told that it required overhaul.

Each of the DOD components has an inventory manager or equivalent who is tasked to maintain cognizance of that component's locomotive inventory. We found, however, that the managers have not been given the authority and responsibility to truly manage the inventory; that is, the inventory managers are not in a position to question low usage, direct redistribution, or cancel purchase requests.

CONCLUSIONS AND RECOMMENDATIONS

The millions of dollars spent each year to operate the locomotives and the high cost of purchasing new locomotives or remanufacturing existing ones make it imperative that management be improved. As discussed in the prior sections, better management skills in several areas could avoid unnecessary expenditures.

Management improvements would involve developing usage and replacement criteria, maintaining complete and accurate information on the locomotives, and assigning greater authority and responsibility to the inventory managers. In this way, DOD would be in a position to make sound decisions on such things as overall locomotive needs; replacement plans; and retention, redistribution, storage, or disposal of underused locomotives.

Accordingly, we recommend that the Secretary of Defense take the following actions:

- Issue a DOD instruction setting standards to measure actual usage against. Also include in the instruction, criteria for deciding to replace locomotives.
- Have the services give each inventory manager decisionmaking authority. Assign the manager the responsibility for maintaining indepth knowledge about all the locomotives, determining overall locomotive needs, developing replacement plans, questioning retention of underused locomotives, and directing redistribution to locations needing locomotives.
- Establish a system for reporting usage to the inventory managers.
- Discontinue rail operations at locations where usage is low and where more economical alternatives, such as trucks, can satisfy operating needs.
- Designate one of the inventory managers as the DOD focal point for locomotives. Have the manager maintain information on the location, age, condition, and usage of all locomotives in DOD.

--Develop a DOD-wide replacement plan. When decisions are made to replace locomotives, consider rebuilding existing locomotives rather than purchasing new ones.

We discussed this report with DOD officials. They generally agreed with our findings and recommendations. The officials pointed out, however, that some of the underused locomotives may be needed in the future. The future considerations relate to (1) mobilization, contingency, and surge requirements, (2) availability of commercial switching services, and (3) conversions to coal-fired power generating plants.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement of actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Director, Defense Logistics Agency; the Secretaries of the Army, Navy, and Air Force; and the Chairmen of the appropriate congressional committees.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "R. W. Gutmann".

R. W. Gutmann
Director